

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 are presently active in this case. The present Amendment amends Claims 6, 11 and 16 without introducing any new matter.

The outstanding Office Action objected to the Abstract and Claims 6, 11 and 16 because of informalities. Claim 1 was rejected under 35 U.S.C. §102(b) as anticipated by Ella (U.S. Patent No. 5,910,756).

Claims 6-20 were allowed and Claims 2-5 were indicated as allowable if rewritten in independent form. Applicants acknowledge with appreciation the indication of allowable subject matter.

However, since Applicants consider that Claim 1, from which Claims 2-5 depend, defines patentable subject matter, Claim 1 is maintained in independent form at the present time.

In response to the objections to the Abstract, the Abstract of the Disclosure is rewritten to correct the noted informalities. Further, the numerals in the Abstract are deleted. In light of the formal nature of the changes, the changes to the specification and Abstract do not raise a question of new matter.

In response to the objection to Claims 6, 11 and 16, these claims are amended to recite “exhibiting the other attenuation extremum” for clarification as proposed in the outstanding Office Action.

In response to the rejection of Claim 1 under 35 U.S.C. §102(b) as anticipated by Ella, Applicants respectfully traverse the rejection and request reconsideration of the rejection, as next discussed.

The outstanding Office Action's rejection is based on the position that in Ella's bulk acoustic wave resonator-stacked crystal filter disclosed at column 6, lines 36-59, "the rate of frequency change in accordance with temperature inherently must be different at the two extremum N1 and N2 because the thickness of all the layers of the resonators providing these frequencies are equal except for the membrane layers, and the ZnO and SiO₂ layers inherently have opposite (plus/minus) signs of temperature coefficients of elastic constants."¹

However, Applicants respectfully submit that this position is insufficient to show that Ella inherently teaches the claimed rate of frequency change in accordance with temperature change at a first frequency at which said low frequency side attenuation extremum appears to be different from that at a second frequency at which said high frequency side attenuation extremum appears. More specifically, this position fails to show "that the alleged inherent characteristic *necessarily* flows from the teachings of the applied references,"² as next discussed.

The resonant filter of Applicants' Claim 1 is configured as a simple ladder circuit. Because the ladder circuit is used, a rate of frequency change in accordance with temperature change at a first frequency at which the low frequency side attenuation extremum appears can be made different from that at a second frequency at which the high frequency side attenuation extremum appears. A discussion of the frequency change in the claimed ladder circuit is also set forth in Applicants' Specification at page 43, line 6 to page 45, lines 5-17 and corresponding Figure 8.

¹See the outstanding Office Action at page 4, lines 9-14.

²See MPEP 2112 (emphasis in original) (citation omitted). See also same section stating that "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic," (emphasis in original). See also In re Robertson, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill,'" citing Continental Can Co. v. Monsanto Co., 948 F2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991); and "[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient," Id. at 1269 (citation omitted)).

Turning now to the applied reference, Ella's filter circuit includes stacked crystal filter (SCF) circuits therein. Therefore, Ella's filter has a series resonator with a combination of different thickness of piezoelectric layers, and a parallel resonator with a combination of different thickness of the piezoelectric layers.³

The SCF filter of Ella is therefore not a simple ladder circuit. As a result, it is not necessarily inherent from this structure that different rates of frequency change in accordance with temperature change at a first frequency at which the low frequency side attenuation extremum appears and at a second frequency at which the high frequency side attenuation extremum appears.

The basis for the outstanding rejection relies on the disclosure in the present Specification at paragraph [0072] to support the position of inherency. In that respect, Applicants do not believe the noted disclosure supports that position.

The basis for inherency indicates that in the applied art of Ella the series resonators and parallel resonators must have a different rate of frequency change in accordance with temperature because of different temperature coefficients of elastic constants.

However, merely having different temperature coefficients does not meet the features of Claim 1. In Claim 1 the rate of frequency change at a first frequency at which a low frequency side attenuation extremum appears is different from that at a second frequency at which a high frequency side attenuation extremum appears. As noted above the simple ladder circuit recited in Claim 1 results in such a feature. The SCF filter of Ella is not a simple ladder circuit.

That is, Claim 1 is directed to a piezoelectric resonant filter having frequency characteristic exhibiting a low frequency side attenuation extremum and a high frequency side attenuation extremum arranged on opposite sides of a pass band. The different rates of

³ See Ella in Figures 11a, 11c, 12 and 13.

frequency change in accordance with temperature of different series resonators as in Ella does not correspond to such features. As a result, even if the individual series or parallel resonators within Ella have different rates of frequency change in accordance with temperature that is unrelated to a rate of frequency change in accordance with temperature and a first frequency at which the low frequency side attenuation extremum appears and is irrelevant from the temperature change at which the high frequency side attenuation extremum appears.

Therefore, the applied reference fails to inherently teach or suggest every feature recited in Applicants' claims, and thereby Claim 1 is patentably distinct over Ella. Accordingly, Applicants respectfully traverse, and request reconsideration of, the rejection based on Ella.⁴

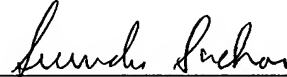
Consequently, in view of the present Amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-20 is earnestly solicited.

⁴ See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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